

Application No. 09/880,985
Amendment "A" dated September 12, 2005
Reply to Office Action mailed July 8, 2005

REMARKS

Applicant expresses appreciation to the Examiners for the interview granted to applicant's representative. As discussed at the interview, applicant has amended independent claims 1 and 28 as proposed, which, as noted in the interview summary, "appeared to overcome the rejections of record" subject, however, to the Examiner's update of the search before determining allowability.

Accordingly, by this paper, claims 1-4, 8, 13, 18, 19, and 21-38 are presented for reconsideration. Of those claims, claims 1-3, 24, and 28 have been amended, claims 4-7, 9-12, 14-17, and 20 have been cancelled, and claims 31-38 are now dependent claims.

Initially, Applicants note that the Office Action objects to claims 9 and 14-16 for various alleged informalities. Accordingly, in an attempt to expedite prosecution, Applicants have cancelled these claims in order to address the Examiner's concerns.

As presented herein, claims 1 and 28 are directed to a method and a corresponding computer program product for implementing a method for efficiently searching the interactive broadcast data text descriptions of a video transmission in response to a string of text input by a user in order to identify the particular interactive broadcast data desired by the user. The method is adapted for use in a system that includes a television and a video transmission medium, wherein interactive broadcast data such as electronic program guide information, news headlines, sports scores, or other similar kinds of periodically updated information that can be displayed as text simultaneously with other programming is transmitted across the video transmission medium. The system also includes a management system having a digital processor for processing one or more unique digital signatures that correspond to the interactive broadcast data, and an input device for inputting other digital data that corresponds to user instructions input by a user when searching for particular interactive broadcast data.

As defined by the independent claims, the method is comprised of a step for receiving at the management system unique binary signatures for the interactive broadcast data text descriptions. Each of the unique binary signatures is created using a first function adapted to convert the interactive broadcast data into the unique binary signatures. The conversion results in each of the unique binary signatures having a fixed number of bytes. The unique binary signatures are then stored at the management system.

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The method next requires a step for a user-entered text string to be input from the input device to the management system. This is followed by a step for using a second function that is different from the first function, and that is adapted to convert the user-entered text string into a unique binary signature that is stored at the management system. The unique binary signature of the user-entered text string has the same number of fixed bytes as the unique binary signature converted by the first function for the interactive broadcast data.

Lastly, the method involves steps for retrieving and comparing the unique binary signatures of the interactive broadcast data text descriptions to the unique binary signature of the user-entered text string, and then, based on the comparison, the management system identifies one and only one item of interactive broadcast data that matches the input text string, otherwise the management system identifies no match.

As noted at the interview, the claimed method significantly improves the speed and efficiency of searching interactive broadcast data such as an electronic program guide or other periodically updated program information, as noted.

In the Office Action claims 1-21, 23-25 and 27-30 were rejected under 35 U.S.C. 103(a) as being unpatentable over Bruette (U.S. Patent No. 6,708,336) in view of Chidlovskii (U.S. Patent No. 6,347,314). Claims 22 and 26 were rejected under 35 U.S.C. 103(a) as being unpatentable over Bruette (U.S. Patent No. 6,708,336) in view of Chidlovskii (U.S. Patent No. 6,347,314) as discussed above and further in view of Kessels, et al. (U.S. Patent No. 4,598,385).¹

As discussed at the interview, the primary reference to Bruette discloses a method of transparently (i.e., without being apparent to the user) generating a database such as an electronic program guide (EPG) as shown in Figure 2, and a method for searching the EPG. As explained by Bruette (see column 5, lines 18 - 67 and column 6, lines 1 - 5), the call sign of each channel is converted into a decimal number using Table 1. The decimal number is stored in a column (column n, figure 2), and later used to identify the channel number when the call sign is input using a keypad. For example, inputting "ABC" with the keypad results in producing the decimal number 111 using Table 1, which in turn identifies channel 02 (see figure 2).

¹ Both Bruette and Chidlovskii qualify as "prior art," if at all, under 35 U.S.C. § 102(e). Applicant reserves the right to challenge whether either or both of these references properly qualify in terms of being prior to applicant's date of invention, and therefore, and reference to either Bruette or Chidlovskii is made merely for purposes of argument, and should thus not be construed as any admission that either reference is a proper qualifying reference.

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However, the decimal numbers produced by Table 1 are not necessarily unique. As shown in Figure 2, some call signs such as "CBS" and "CNN" will result in the same decimal number (e.g., 155). This in turn requires further processing methodology to resolve the ambiguity, as described by Bruetto at column 6, lines 41 – 58. Further, some call signs may produce a decimal number (such as call sign "DIS" which results in the decimal number 237) that is a "subset" of another call sign (such as "DISC" with its corresponding decimal number of 2371 based on Table 1). Again, this is a further ambiguity that requires additional methodology to resolve, as disclosed at column 6, lines 59 – 67 and column 7 lines 1 – 8.

Bruetto clearly does not teach a search methodology that results in a unique digital signature for interactive broadcast data, and that permits one and only one match to be identified from the interactive broadcast data when matched to a text string input by the user.

Chidlovskii, on the other hand, discloses an internet search protocol (not video transmission), in which a client query is hashed to produce a signature that is cached at the client, and then used to match a subsequent search query by the client. However, Chidlovskii does not teach using first and second functions that are different from one another but that nonetheless produce the same number of fixed bytes. Thus, for at least these reasons, as acknowledged at the interview, the references of record do not anticipate or make obvious², either singly or in combination, the claims as presented herein for reconsideration. Accordingly, favorable action is courteously requested.

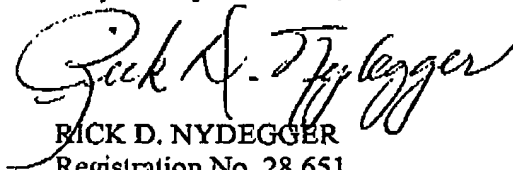
² Applicants also respectfully preserve for the record the argument noted and discussed at the interview that Chidlovskii is not properly combinable with Bruetto and hence the asserted rejection fails to constitute a proper *prima facie* case against the claims as originally presented. In particular, one of skill in the art would not be motivated to perform a conversion of either the call signs or decimals (columns (b) and (n) of figure 2) given that the heart of Bruetto's search methodology already relies on the conversion of call signs to decimal numbers using Table 1. To convert the call signs to digital signatures would require one to completely disregard the decimal conversion conceived by Bruetto using Table 1, which as noted, is central to Bruetto's invention. Moreover, there clearly would be no motivation to hash the decimal numbers, since that would render the decimal conversion absolutely useless and of no value. Thus, to combine Chidlovskii with Bruetto is improper, because it would effectively require one to eviscerate or ignore the principal thrust of Bruetto's invention. Although the Examiners did not agree with this argument, as noted at the interview, applicant respectfully reserves the right to further challenge this rejection by way of continuation.

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In the event the Examiner finds any remaining impediment to allowance that may be clarified through a telephone interview, the Examiner is requested to contact the undersigned attorney.

Dated this 13 day of September, 2005.

Respectfully submitted,



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